EXECUTIVE SUMMARY

Project Location

The Spring Canyon wind project (formerly known as the Peetz Table wind project) would be constructed on private land located east of Peetz, in Logan County, Colorado.

Project Participants

Spring Canyon Energy LLC (SCE), a wholly owned affiliate of Invenergy, applied to the Western Area Power Administration (Western) to interconnect a 130-megawatt (MW) wind power facility to Western's existing 230-kilovolt (kV) Sidney to North Yuma transmission line. Western is the lead Federal agency for compliance with *the National Environmental Policy Act of 1969* (NEPA) as amended. There are no cooperating agencies. This environmental assessment (EA) was prepared in accordance with NEPA to assess the impacts of constructing and operating the wind project, which would be enabled by Western's execution of the interconnect agreement (a Federal action).

SCE is a private wind power development company with over 25 projects in the U.S. and Canada and a mission to develop, own, and operate projects throughout North America. SCE originates and develops wind projects from conception through completion and long-term operation. SCE has obtained a Power Purchase Agreement with Xcel Energy for 60-MW and would obtain a Power Purchase Agreement with one or more other power distributors, who would purchase the power generated by the wind project and distribute it to customers.

Western, an agency of the U.S. Department of Energy, is responsible for marketing Federal electric power and transmission service in 15 central and western states. Western markets power to over 600 customers including rural electric cooperatives, municipalities, public utility districts, Federal and state agencies, irrigation districts, and private utilities (Western 1999). The power customers, in turn, provide electric service to millions of retail consumers. Electric power

marketed by Western is generated by the U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, and the International Boundary and Water Commission, which operate 55 hydropower generating plants in Westerns' service area.

Purpose and Need

NEPA requires Federal decision-makers to consider the environmental effects of their actions. The agency responsible for complying with NEPA for this proposed action is Western. SCE applied to interconnect with Western's transmission system. Western must respond to SCE's request for an interconnection with its transmission system. In responding to this request, Western will apply the terms and conditions of its Open Access Transmission Tariff and Interconnection Guidelines in considering SEC's request. Western's decision is limited to deciding if the specific wind project proposed by the applicant can be interconnected with Western's transmission system. Western's approval of this interconnection would enable the Spring Canyon wind project to proceed.

Executing an interconnection agreement would be consistent with Western's mission, described above. The primary purpose of the Spring Canyon wind project is to provide wind-generated electricity from a site in Colorado to further the objectives of the President's National Energy Policy to diversify energy sources by making greater use of non-hydroelectric renewable sources such as wind power (National Energy Policy Development Group 2001) and to meet customer demand for inexpensive energy from renewable energy resources. The project also would meet the demand for renewable energy resources created by the recent successful ballot initiative in Colorado requiring utilities to generate 10% of the state's energy from renewable resources by 2015.

Alternatives

Proposed Action. Under the Proposed Action, Western would execute an interconnection agreement to connect the wind project to Western's existing Sidney to North Yuma 230-kV

transmission line (see Western [1991] for information regarding this transmission line). SCE would construct and operate a 130-MW wind energy facility on privately owned land on Peetz Table, east of Peetz, in Logan County, Colorado. Phase I would consist of about 60 MW to be constructed in 2005, pending successful completion of the environmental review process. The size and timing for the construction of subsequent phases is not known at this time, but the entire 130-MW project is evaluated in this EA. Although the project would have an installed capacity of 130-MW, it is expected to operate at about 38% capacity, so actual output would average about 49 MW. SCE has obtained or will obtain leases from private landowners to construct and operate the wind project. The project footprint (i.e., the area to be disturbed during construction and throughout 40-year life-of-project) would be limited to the areas immediately adjacent to turbines and access roads.

The wind project would consist of approximately 87 1.5-MW or 72 1.8-MW wind turbines and associated facilities. Phase I would consist of about 40 turbines. The wind turbine generators would be supported by 80-meter tubular towers. Towers and generators would be white. Support facilities would include step-up transformers, a substation, underground and overhead power collection and communication lines, roads, and an operation and maintenance (O&M) building.

Access to the project area would be via Colorado Highway 113 and a network of existing county and private roads within the project area. Access to wind project facilities, including individual turbines, would be provided by new access roads to be constructed for the purposes of wind project construction and operation.

SCE proposes to implement Western's standard construction, operation, and maintenance practices, where applicable, to avoid and minimize impacts to the environment to the extent practicable. These measures are part of SCE's proposed project and Western's Proposed Action and are considered in this EA's impact analysis. SCE also proposes to implement additional mitigation measures to avoid, reduce, or eliminate impacts related to SCE’s Proposed Action.

No Action. Under the No Action Alternative, Western would not execute an interconnect agreement with SCE, and the wind project would not be constructed.

Summary of Impacts for the Preferred Alternative

The Proposed Action is Western's preferred alternative and it would have no significant impacts based on the significance criteria and impact analysis conducted. The Proposed Action would have certain impacts, both beneficial and adverse, which are summarized below.

Air Quality. The Proposed Action would have beneficial impacts on air quality because greenhouse gases and other pollutants emitted by conventional fossil fuel combustion would not be produced. Construction and operation would result in small amounts of dust and tailpipe emissions from vehicle traffic.

Topography. Minor impacts to topography would include temporary or permanent changes in the land surface and slope due to cut-and-fill activities required to excavate foundations and build roads.

Paleontology. Direct impacts to fossils could include the inadvertent destruction of scientifically important fossils during excavation.

Soils. Approximately 222 acres of soils would be impacted during initial construction and approximately 69 acres would remain under roads, turbines and facilities for the life-of-project (about 40 years). Impacts to soils due to the project would be either minor and temporary or minor and long-term (in project footprint). Impacts would include soil loss through erosion, compaction, and loss of structure in soils that are disturbed or driven on during construction.

Water Resources. Potential impacts to surface water quality include increased turbidity, salinity, and sedimentation of surface waters due to runoff and erosion from disturbed areas. Accidental

spills of petroleum products or other pollutants also could impact surface water quality. The project would result in the consumption of surface and/or ground water.

Vegetation. Direct impacts to vegetation would include disturbance of 222 acres during construction; 84 acres of native prairie, 102 acres of cropland, and 36 acres of Conservation Reserve Program (CRP) land. Most of the disturbed area would be reclaimed and revegetated, with 69 acres remaining occupied by roads, turbine foundations, and facilities for the life-of-project (26 acres of native prairie, 32 acres of cropland, and 11 acres of CRP land). There would be no impacts to riparian vegetation. Weed infestations could also constitute an adverse effect.

Floodplains and Wetlands. Floodplains and wetlands would not be impacted.

Wildlife. Impacts to mammals (except possibly bats), reptiles, and amphibians are expected to be minimal because the land is primarily agricultural and subject to regular human activity from farming and ranching activities. Bats may be impacted due to collision-related mortality associated with operating wind turbines. Other wind projects are known to cause substantial bat mortality. However, since bats are not known to roost in the area and none of the four species that may occur in the area are Federal- or state-listed TEP&C species, impacts to bats are not expected to be significant.

Birds may be directly impacted due to collisions with turbines, meteorological towers, overhead power lines, and substation structures, and through habitat loss due to vegetation disturbance, human presence, and noise. The potential impacts of wind power development on birds is well-documented, but wind power-related mortality is low compared with other sources of bird mortality. The project is largely in conformance with U.S. Fish and Wildlife Service (FWS) recommendations for avoiding and minimizing impacts to wildlife from wind turbines.

Special Status Species. The project may affect, but is not likely to adversely affect, bald eagles. The project may adversely affect the whooping crane, interior least tern, piping plover, and/or pallid sturgeon, designated whooping crane critical habitat, and proposed piping plover critical

habitat. No mitigation is required because the U.S. Forest Service and the FWS have provided funds to a Fish and Wildlife Foundation account for the purposes of offsetting the adverse effects of Federal agency actions resulting in minor water depletions, such as the Spring Canyon Wind Energy Project.

The project is expected have low to no impacts on state-listed species, including western burrowing owl, ferruginous hawk, long-billed curlew, mountain plover, peregrine falcon, sandhill crane, black-tailed prairie dog, northern pocket gopher, and swift fox.

Cultural Resources. No National Register of Historic Places (NRHP)-eligible cultural resource sites were identified during the Class III cultural resource inventory conducted for the project. The 23 historic (9) and prehistoric (14) sites recorded during the inventory are all recommended as not eligible for the NRHP. No Traditional Cultural Properties (TCPs) are known to occur within the project area, and no TCPs were identified during the current inventory. Because the sites are recommended as not eligible for the NRHP, construction activities would have no project effect on these cultural resources.

Land Use, Recreation, and Transportation. The project would result in the initial disturbance of approximately 84 acres of shortgrass prairie, 102 acres of agricultural land, and 36 acres of CRP land. Life-of-project disturbance would include disturbance of 25 acres of shortgrass prairie, 32 acres of agricultural land, and 11 acres of CRP land. All existing land uses would continue as they were prior to development, with the possible exception of hunting, which would be precluded in the vicinity of wind turbines, transformers, and other facilities that could be damaged by ammunition fired during hunting.

Traffic will increase on the roads leading to and within the project area during the construction stage, as equipment is transported into the area. Large pieces of equipment such as rotor blades are over-sized loads that may temporarily slow traffic as they are moved into the project area. This increased heavy traffic would also cause additional wear on existing roads; however, the

increase in traffic would not cause a major change in the transportation network in the project area.

Noise. Construction noise would exceed ambient noise levels and may be heard for some distance within the project area. Truck traffic, heavy equipment, and possibly foundation blasting would cause elevated noise levels at and near construction sites.

Both the nearest residence and the nearest raptor nest are approximately 900 ft from the nearest wind turbine, so wind turbine noise levels would be about 40 A-weighted decibels (dBA), similar to rural night-time ambient noise levels. Generally, the sound of the wind will mask turbine noise, especially since turbines only operate when wind speeds reach a certain threshold. SCE will use state-of-the-art turbines that have been designed to minimize noise levels (e.g., upwind rotors, thinner blade tips, streamlined towers and nacelles), so it is anticipated that wind turbine noise impacts to residents and wildlife would not be significant.

Visual Resources. The wind turbines would change the aesthetics of the landscape with the addition of tall towers and rotating blades--whether this effect is deemed beneficial or adverse depends on viewer perspective and sensitivity. The proposed wind project likely would be more visible than the existing wind project west of Peetz because the turbines would be taller and more numerous. The substation, access roads, overhead power lines, vehicles, and dust also would impact visual resources. The substation would be viewed most frequently by local landowners, and it would represent an industrial facility in a rural landscape. The project area already contains 41.4 mi of roads; construction of approximately 26 more miles would constitute a 63% increase in the number of roads in the project area.

Current Federal Aviation Administration (FAA) requirements for wind turbine lighting typically include red, simultaneously pulsating night-time lighting and no daytime lighting (white towers are sufficiently visible to pilots). Red night-time lights are less intrusive to humans than white night-time lights. SCE is preparing a lighting plan to meet FAA requirements while minimizing the number of lights for the project.

Socioeconomics. No new community or county infrastructure would be required to support project construction or O&M. The project would generate sales and use taxes for goods and services purchased during construction and operation. It also would provide property taxes to the town of Peetz and to Logan County. The project would employ 25 workers during construction and would create 8-10 permanent O&M jobs. All of these impacts would be beneficial to the affected towns/cities, to Logan County, and to the State of Colorado. Logan County and the City of Sterling are low income communities in the area of potential effect, but the project is expected to generate revenue needed by the county and the city, so no adverse effects to low income communities would occur. Furthermore, the project would generate revenue for the private landowners on whose land the project is located, further benefiting the area's economy.

Cumulative Impacts. No significant cumulative impacts are anticipated.

Unavoidable Adverse Effects. Unavoidable adverse effects--residual impacts that likely would remain after mitigation--would include the following:

- Fossil fuels and water would be consumed and labor and materials would be expended during construction and, to a much lesser extent, during operation (e.g., O&M vehicle fuel). This would be offset by renewable energy produced through wind rather than consumption of fossil fuel.
- Some damage to, or illegal collection of, paleontological or cultural resources may occur.
- Up to 222 acres of soil and vegetation disturbance would occur, resulting in some soil loss and some stream sedimentation, until disturbed areas are successfully reclaimed. Up to 69 acres of vegetation would be lost for the 40-year life-of-project.
- Some additional emissions of fugitive dust, sulfur dioxide, nitrogen oxides, carbon monoxide, carbon dioxide, and volatile organic compounds would occur.
- Some wildlife mortality would occur.